

# A RECURSIVE LEAST SQUARES APPROACH TO CALCULATE MOTION PARAMETERS FOR A MOVING CAMERA

## ABSTRACT OF THE DISCLOSURE

**[0057]** A method and system for estimating camera motion parameters and determining a filter to correct for camera motion errors. The estimating method and system includes obtaining an observation point set including a plurality of observed point vectors, computing a plurality of motion output vectors by performing a recursive least squares (RLS) process based on a plurality of motion parameter vectors, and comparing the plurality of motion output vectors to the plurality of observed point vectors. The filter determining method and system includes determining a plurality of desired motion point vectors, computing a plurality of estimated motion point vectors by means of an RLS algorithm, and computing the filter based on a difference between the plurality of estimated motion point vectors and the plurality of desired motion point vectors.